AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 2, line 5, and continuing to page 2, line 12, as follows:

In IP (Internet Protocol) access networks that support host mobility, the routing paths between the host and the network may change frequently and rapidly. For example, Mobile IP networks allow a mobile node or an entire moving network to change the access router that provides the first IP layer hop seen from the mobile node or from a moving network's edge. When the mobile node changes access router (due to, for instance, mobility), there is a need to establish a new path, whose nodes should ideally provide similar treatment to the IP packets as was provided along the old routing path.

Please amend the paragraph beginning at page 2, line 27, and continuing to page 3, line 5, as follows:

A possibility is to simply move all the context from one access router AR to the other access router of a selected access point after handover. Said mechanism works properly when handling single IP flows. However, drawbacks have been recognized concerning services and sessions wherein more than one flow is involved. For example, Multimedia sessions may involve ~~of~~ several parallel IP flows, one for voice, one for video, and one for whiteboard. After a hand-over between two access points, it is not unusual that IP flows belonging to the same session are distributed on different radio interfaces of a terminal. In such a situation, the flows of a session are distributed on two access routers after the hand-over and associated context transfer. The context transfer must then be performed in both access routers, since there is no master access router that can assume responsibility for the session context. This would lead to a context synchronization problem since the session context may have to be renegotiated during a session. For example, the bandwidth of the session may be renegotiated.

Please amend the paragraphs beginning at page 4, line 11, and continuing to page 4, line 19, as follows:

One object with the technology disclosed herein~~invention~~ is to offer a coordination mechanism for the handling of context associated to flows that belong to the same session.

In simple terms, ~~the~~ a problem addressed by ~~that~~ the technology disclosed herein~~current invention addresses~~ is to define a context transfer procedure that meets the above requirements, and ~~the~~ an object of the technology disclosed herein~~present invention~~ is to provide a solution to the stated problem.

Please amend the paragraph beginning at page 4, line 22, and continuing to page 4, line 24, as follows:

~~The~~ A problem is solved according to the technology disclosed herein~~present invention~~ by a procedure coordinating the transfer of context that is specific for each flow with the transfer of context that is common for all flows.

On page 4, last line, delete the following paragraph:

~~Preferred embodiments are set forth in the depending claims.~~

Please amend the paragraph beginning at page 5, line 1, and continuing to page 5, line 2, as follows:

An advantage with of the technology disclosed herein~~present invention~~ is that it enables session-oriented IP-flow control in multi-access networks.

Please amend the paragraph beginning at page 5, line 28, and continuing to page 5, line 31, as follows:

Figure 2a is a flow chart showing a first part of the method according to ~~the~~ an example embodiment~~invention~~. The flow chart continues in figure 2b.

Figure 2b is a flow chart showing a second part of the method according to the ~~invention~~example embodiment. The flow chart starts in figure 2a.

Please amend the caption on page 5, line 34, as follows:

DETAILED DESCRIPTION ~~OF PREFERRED EMBODIMENTS~~

Please amend the paragraph beginning at page 5, line 35, and continuing to page 6, line 23, as follows:

Figure 1 is a schematic block diagram illustrating a network system according to a preferred example embodiment ~~of the invention~~. In the figure is illustrated Internet protocol (IP) flow paths over a number of domains D1-Dn between two end user terminals UTA, UTB. Said IP information flow is passing a number of middleboxes MB. Each domain comprises one Midcom Agent MA controlling at least one associated middlebox MB. The middleboxes are associated to router nodes that is routing the flow of data packets in accordance with their IP address. The IP flow is generated by one of the user terminals during an end-to-end session. The middleboxes MB store context data for each IP session flow. Once the middleboxes MB within a domain D receive context data, they establish and store the associated context. As user data packets arrive at the middleboxes MB of a domain D, the respective middlebox MB associate these packets with their proper context and provide them with appropriate context dependent service. Such context dependent service is specific to the respective middlebox MB. A middlebox MB has means for controlling its operation and function. It also comprises means for handling context, e.g. reading, sorting, selecting, deleting, writing, storing, etc. A middlebox has also means for communicating with its associated Midcom Agent by means of one or more suitable protocols. Further, a middlebox comprises means for communicating with other middleboxes by means of one or more suitable protocol. According to the technology disclosed herein ~~this invention~~, the Middleboxes are provided with means for storing 22, i.e. a data storage, dynamic context. The middleboxes can be implemented by means of computer software program comprising coded instructions, when said computer program software is stored in a computer usable medium and run in a computer or processing means, such as e.g. a server unit, a microprocessor, PC, data processing unit, CPU, etc.

Please amend the paragraph beginning at page 6, line 32, and continuing to page 7, line 8, as follows:

When a user terminal UT starts a session, it starts signalling along the end-to-end path UTA-UTB in order for the context, e.g. session related context, to get established in the middleboxes MB along the path UTA-UTB. That is, in all middleboxes MB[[,]] that the user session data is going to traverse, the proper QoS, security or other context needs to be established and configured. The user terminals UT use a session layer, e.g. SIP/SDP (Session Initiation Protocol/Session Description Protocol), and/or an IP level signalling protocol, that supports the establishment and manipulation of arbitrary state information along the path of the IP flow. Such IP level stateful multi-domain protocol that is being standardized by the IETF is the group of protocols termed Next Steps in Signalling (NSIS) (see reference [7]). The NSIS protocol family is therefore the preferred IP level signalling protocol of the technology disclosed herein~~present invention~~.

Please amend the paragraph beginning at page 7, line 19, and continuing to page 7, line 31, as follows:

A Midcom Agent MA has means for controlling its operation and function. It also comprises means for handling context, e.g. reading, sorting, selecting, deleting, writing, storing, etc. Midcom Agent MA has also means for communicating with its associated middleboxes MBs by means of one or more suitable protocols. Further, a Midcom Agent MA comprises means for communicating with other Midcom Agents MAs by means of one or more suitable protocol over a control plane. According to the td technology disclosed herein~~this invention~~, the Midcom Agents are provided with Context Dividers CD for dividing the total context for a session consisting of multiple IP flows and means for storing 20, i.e. a data storage, common context. The Midcom Agent MA can be implemented by means of computer software program comprising coded instructions, when said computer program software is stored in a computer usable medium and run in a computer or processing means, such as e.g. a server unit, a microprocessor, PC, data processing unit, CPU, etc.

Please amend the paragraph beginning at page 8, line 17, and continuing to page 8, line 34, as follows:

A situation is illustrated in figure 1[[,]] wherein the User Terminal UTA is moving towards the access point AP2. If the terminal UPA is measuring the received signal strength from the surrounding base stations BS, the User Terminal UTA may find it necessary to perform a handover to the base station BS2 in AP2, as the signal strength from BS1 (associated with AP1) becomes weaker than from BS2. The movement is therefore causing a layer 2 (L2) trigger in the terminal resulting in a handover to BS2 and AP2. Three positions 1, 2 and 3 for the moving user terminal UTA is given in figure 1. The terminals UTA and UTB are involved in a multimedia session wherein three separate IP flows F1,F2,F3 (for example one for voice, one for video, and one for whiteboard) are progressing simultaneously. For~~Of~~ different reasons, said separate IP flows may be connected to different access points of the network structure. In the first position, all these IP flows F1,F2,F3 may be connected to access point AP1. When the terminal has moved to the second position, only one of the separate IP flows, F1, is connected to AP1, and the other two IP flows F2,F3 are connected to access point AP2. In position 3, when the terminal is somewhere between AP2 and access point AP, the two IP flows F2,F3 that where connected to AP2 in position 2 are still connected to AP2, but the IP flow F1 is transferred to access point AP3, which belongs to another domain, D2.

Please amend the paragraphs beginning at page 9, line 4, and continuing to page 10, line 5, as follows:

According to the technology disclosed herein~~invention~~, the Midcom Agents comprise a context divider function. At session initiation, one of the User terminals starts signalling along the end-to-end path in order for the context to get established. The context divider divides the total context according to a predetermined schedule into one common context and one dynamic context per IP flow. The common context is stored within the Midcom Agent, but the specific dynamic context data is distributed to that middlebox to which the special IP flow, to which the specific dynamic flow belongs, passes. The means for dividing the total context, context divider CD, for a session consisting of multiple IP flows in the Midcom Agents MA divides the context

into two types of contexts. The first type is called the common context and includes information elements that are common for all flows in the session. Moreover, the common context includes such information about each flow in the session that is permanent over the lifetime of the session, or can~~cam~~ be renegotiated using e.g. session layer signalling. Examples of common context are session identity, flow identity and allocated bandwidth for each flow in the session. The second type of context is called dynamic context. This context is defined for each flow and is updated frequently during a session. Examples of dynamic contexts are state information for IP header compression and packet schedulers. Further, dynamic context is related to events in the data path, such as the transmission or reception of a packet, and should therefore be processed in nodes along the data path, such as routers or middleboxes. On the other hand, common contexts are related to signalling events and should therefore be located in nodes that process session or IP layer signalling, such as a Midcom Agent.

The requirements on the context transfer mechanism at hand-over are different for the two types of context, which will now be illustrated by means of figure 2, which is a flow chart of a preferred example embodiment ~~of the invention~~. The first step, step 100, is performed when a session between user terminals is initiated and the data packet flows arrives to the access routers of the access points:

- dividing the total context associated to a session into common context, which is common to all flows of the session, and one dynamic context per data packet flow of the session (step 100).

Please amend the paragraph beginning at page 13, line 6, and continuing to page 13, line 7, as follows:

The technology disclosed herein~~invention~~ also relates to a Midcom Agent for handling context of data packet flows in a network system ~~according to claims 9 – 16~~.